

(19)



Europäisches Patentamt

European Patent Office

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(11)

EP 0 456 262 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention
of the grant of the patent:
31.01.1996 Bulletin 1996/05

(51) Int. Cl.⁶: **A01K 89/01**

(21) Application number: **91107635.4**

(22) Date of filing: **10.05.1991**

(54) **Fishline guide mechanism in spinning reel for fishing**

Führungsmechanismus für Angelleine auf einer Angelrolle

Mécanisme de guidage pour ligne de pêche sur un moulinet de pêche

(84) Designated Contracting States:
DE FR GB IT

(30) Priority: **11.05.1990 JP 48589/90 U**
25.05.1990 JP 54117/90 U

(43) Date of publication of application:
13.11.1991 Bulletin 1991/46

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(56) References cited:
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Description

BACKGROUND OF THE INVENTION

The present invention relates to an improved fishline guide mechanism in a spinning reel for fishing.

It has been disclosed in the Japanese Utility Model Unexamined Publication No. Sho. 59-139069 that a bail supporting member is pivotally coupled to an end portion of a bail attaching arm of a rotor so as to invert from one of the fishline releasing position and the fishline winding position to the other of them.

However, since a bail supporting member has a gap between the attaching arm and a peripheral edge of an attaching shaft which is provided for pivotally coupling a bail supporting member to the bail attaching arm, the mechanism has a problem that a fishline is accidentally guided into the gap and twines around the fishline guide unit due to the influence of wind or wave at the time of fishing, or the loosening of the fishline or the twisting habit thereof, thereby becoming incapable of being wound, or cutting off or damaging the fishline.

It has been disclosed in the Japanese Utility Model Examined Publication No. Sho. 44-16703 that a bail supporting member having a fishline guide portion is supported to the inside of a bail attaching arm of a rotor. The mechanism, in which the bail supporting member is supported to the inside of the bail attaching arm, has the advantages that the winding operation can be performed smoothly and safely and the reel construction can be small in size because the bail supporting arm is located away from fingers holding a fishing rod. However, since the end portion of the bail supporting member is extended outwardly with respect to an outer side surface of the end of the bail attaching arm so that a height difference wall is formed therebetween, the mechanism has a problem that a fishline twines around the height difference wall due to the influence of wind or wave at the time of fishing, or the loosening of the fishline or the twisting habit thereof at the time of winding of the fishline, thereby becoming incapable of being wound, or cutting off or damaging the fishline.

SUMMARY OF THE INVENTION

The present invention was made in order to solve the problems mentioned above.

US-A-4,463,915 according to the precharacterizing parts of claims 1 and 2 discloses a fishline guide mechanism in a spinning reel for fishing comprising a bail attaching arm provided to a rotor. An inside of said bail attaching arm being provided opposite to the outer periphery of the rotor. The mechanism further comprises a bail supporting member pivotally coupled to an end portion of said bail attaching arm. The bail supporting member can be turned between a fishline winding position and a fishline releasing position. Between said bail supporting member and said bail attaching arm an anti-tangling member is provided.

Accordingly, it is an object of the present invention to provide a fishline guide mechanism which is in a spinning reel for fishing and operates so that a fishline is prevented from tangling on any of the bail attaching arm or the bail supporting member.

This object is solved by the features of the characterizing parts of claim 1 or 2.

According to the present invention, the anti-tangling member is provided to the reel mechanism so that a fishline is prevented from tangling on the fishline guide portion due to the influence of wind or wave at the time of fishing, or the twisting habit of the fishline or loosening thereof at the time of winding of the fishline, thereby winding the fishline smoothly.

In addition, since the gap formed between the peripheral edge of the attaching shaft and the bail attaching arm is covered to protect with the anti-tangling member, the fishline is prevented from cutting off or damaging, thereby performing the winding operation easily, smoothly and safely.

Further, since the bail supporting member can be attached to the inside wall of the bail attaching arm, the reel construction can be small in size.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a front view of a spinning reel which is an embodiment of the present invention;

Fig. 2 is a section taken along a line A-A of Fig. 1;

Fig. 3 is a front view showing a main part of another embodiment of the present invention;

Fig. 4 is a section taken along a line B-B of Fig. 3;

Figs. 5, 6 and 7 are front views showing a main part of yet another embodiments of the present invention, respectively;

Fig. 8 is a section taken along a line C-C of Fig. 7;

Fig. 9 is a sectional view showing a main part of yet another embodiment of the present invention;

Fig. 10 is a front view of a spinning reel which is yet another embodiment of the present invention;

Fig. 11 is a partially broken front view showing a main part of a spinning reel shown in Fig. 10;

Fig. 12 is a section taken along a line D-D of Fig. 11;

Fig. 13 is a sectional view showing a main part of yet another embodiment of the present invention;

Fig. 14 is a partially broken front view showing a main part of yet another embodiment of the present invention;

Fig. 15 is a sectional view of the embodiment shown in Fig. 14;

Fig. 16 is a partially broken front view showing a main part of yet another embodiment of the present invention; and

Fig. 17 is a sectional view of the embodiment shown in Fig. 16.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Embodiments of the present invention are hereafter described in detail with reference to the drawings attached hereto.

Figs. 1 and 2 show a spinning reel for fishing which is one of the embodiments.

In the spinning reel, as shown in Fig. 1, bail attaching arms are provided to both sides of a rotor 1. A bail 3 is provided to the first end portion of a bail supporting member 4. The second end portion of the bail supporting member 4 is pivotally coupled to an outer end of a bail attaching arm 2 by an attaching shaft 5 so that the bail 3 can be supported in the fishline winding position shown by the solid line or the fishline releasing position shown by the two dot and dash line. A cover plate 2' is provided on an outer surface of a base portion of the bail attaching arm 2. One end of an anti-tangling member 6 is fittingly secured to the outside second end portion of the bail supporting member 4 and is coaxially provided to the attaching shaft 5, and the other end of it is fittingly engaged with the cover plate 2'. Therefore, a gap 7 formed between the cover plate 2' and the peripheral edge of the second end portion of the bail supporting member 4 is covered with the anti-tangling member 6.

Figs. 3 and 4 show the second embodiment of the present invention in which the anti-tangling member 6 is fixedly secured to the cover plate 2' by a pivot 8.

Fig. 5 shows the third embodiment of the present invention in which the anti-tangling member 6 is fixedly secured to the cover plate 2' by the pivot 8 in such a manner that the anti-tangling member 6 is located to be biased toward the one side of the cover plate 2'.

Fig. 6 shows the fourth embodiment in which the anti-tangling member 6 is provided to a bail supporting member 4 which does not have a line roller 9 on the opposite side shown in Fig. 1.

Figs. 7 and 8 show the fifth embodiment of the present invention in which a base end portion of the anti-tangling member 6 is fittingly supported to a small hole 10 provided to the cover plate 2' of the bail attaching arm 2, and the other end portion of it is fittingly coupled to the bail supporting member 4 by the attaching shaft 5.

Further, Fig. 9 shows the sixth embodiment of the present invention in which the bail supporting member 4 is pivotally coupled to an inside end portion of the bail attaching arm 2 by the attaching shaft 5. In addition, the base end portion of the anti-tangling member 6 is fittingly supported to the small hole 10 provided to the inside base portion of the bail attaching arm 2, and the other end portion of it is coupled to the inside wall of the bail supporting member 4 by the attaching shaft 5.

Accordingly, the gap 7 formed between the bail attaching arm 2 and the peripheral edge portion where the bail supporting member 4 is pivotally secured to the bail attaching arm 2 by the attaching shaft 5 is covered with the anti-tangling member 6, thereby preventing the fishline from being erroneously guided in the gap 7 due

to the influence of the wind or wave at the time of fishing, or the twisting habit of the fishline or the loosening thereof.

Figs. 10-12 show the seventh embodiment of the present invention. In this embodiment, the first end of a bail support member 13 is pivotally coupled to the inside end portion of a bail attaching arm 12 provided to a rotor 11 in the spinning reel by a support shaft 14. A cover plate 12' is provided on an outer surface of the bail attaching arm 12. In addition, a bail 15 having a fishline guide portion 15' such as a roller is fixedly secured to the second end of the bail support member 13 by an attaching shaft 16. In addition, the bail 15 can be hold in the fishline winding position or the fishline releasing position by means of a bail distribution mechanism 17.

One end of an anti-tangling member 18 is fixedly secured to the second end of the bail supporting member 13 and on the opposite side to the attaching portion of the bail 15 by the attaching shaft 16. In addition, the other end of the anti-tangling member 18 is fittingly secured to an engagement hole 19 provided to the cover 12' and is coaxially provided to the support shaft 14. Specifically, the other end of the anti-tangling member 18 is fittingly secured on the supporting portion where the bail supporting member 13 is supported to the bail attaching arm 12 by the support shaft 14, through the engagement hole 19.

Fig. 13 shows the eighth embodiment of the present invention in which a support shaft 14 for supporting the bail support member 13 is integrally provided with the engagement portion of the anti-tangling member 18 which is engaged with the engagement hole 19.

Figs. 14 and 15 show the ninth embodiment of the present invention in which the anti-tangling member 18 is formed integrally with and made of the same material as the bail support member 13.

Further, Figs. 16 and 17 show the tenth embodiment of the present invention in which the anti-tangling member 18 is fixedly secured to the end of the bail supporting member 13 by a pivot 16' which is separate component from the attach shaft 16. In this embodiment, a bail attaching portion 100 is gradually increased from the bail 5 toward a fishing guide portion 5' so that a fishline is prevented from tangling on the bail attaching portion.

Therefore, a fishline is prevented from tangling on the end portion of the bail supporting member 3 due to the influence of wind or wave at the time of fishing, or the twisting habit of the fishline or loosening thereof at the time of winding of the fishline, thereby winding fishline smoothly.

Claims

1. A fishline guide mechanism in a spinning reel for fishing, comprising:
a bail attaching arm (2) provided to a rotor (1) and having an inside being provided opposite to the outer periphery of the rotor (1) and an outside;
a bail supporting member (4) pivotally coupled to an

end portion of said bail attaching arm (2) so as to invert from one of a fishline releasing position and a fishline winding position to the other of a fishline releasing position and a fishline winding position; and

an anti-tangling member (6) provided between said bail supporting member (4) and said bail attaching arm (2),

wherein said bail supporting member (4) has a first end portion and a second end portion, the first end portion having a fishline guide portion, the second end portion is pivotally coupled to the outside of an end portion of said bail attaching arm (2) by an attaching shaft (5),

characterized in that

one end of said anti-tangling member (6) is fixed to a portion of said bail attaching arm (2) and the second end at least partly covers the second end portion of the bail supporting member (4).

2. A fishline guide mechanism in a spinning reel for fishing, comprising:

a bail attaching arm (12) provided to a rotor (11) and having an inside being provided opposite to the outer periphery of the rotor (1) and an outside;

a bail supporting member (13) pivotally coupled to an end portion of said bail attaching arm (12) so as to invert from one of a fishline releasing position and a fishline winding position to the other of a fishline releasing position and a fishline winding position; and

an anti-tangling member (18) provided between said bail supporting member (13) and said bail attaching arm (12),

wherein said bail supporting member (13) has a first end portion and a second end portion, one side of the first end portion having fishline guide portion, the second end portion being pivotally coupled to the inside of an end portion of said bail attaching arm (12) by an attaching shaft (14),

characterized in that

one end of said anti-tangling member (18) is coupled and/or fixed to the first end portion of said bail supporting member (13) and the other end covers said attaching shaft (14) or is integral therewith.

Patentansprüche

1. Angelschnur-Führungsmechanismus in einer Drehrolle zum Angeln, mit einem Bügelbefestigungsarm (2), der an einem Rotor (81) vorgesehen ist und der eine Innenseite aufweist, die gegenüberliegend zum dem Außenumfang des Rotors (1) vorgesehen ist, und eine Außenseite aufweist; einem Bügelstützelement (4), das schwenkbar mit einem Endbereich des Bügelbefestigungsarmes (2) gekoppelt ist, um von einer Position einer Angelschnur-Löseposition und einer Angelschnur-Aufwick-

elposition zu der anderen Position einer Angelschnur-Löseposition und einer Angelschnur-Aufwickelposition umzustellen; und einem Verwickelschutzelement (6), das zwischen dem Bügelstützelement (4) und dem Bügelbefestigungsarm (2) vorgesehen ist,

wobei das Bügelstützelement (4) einen ersten Endbereich und einen zweiten Endbereich aufweist, wobei der erste Endbereich einen Angelschnur-Führungsbereich aufweist, und wobei der zweite Endbereich schwenkbar mit der Außenseite eines Endbereiches des Bügelbefestigungsarmes (2) durch eine Befestigungswelle (5) gekoppelt ist;

dadurch gekennzeichnet, daß

ein Ende eines Verwickelschutzelementes (6) an einem Bereich des Bügelbefestigungsarmes (2) befestigt ist und der zweite Endbereich zumindest teilweise den zweiten Endbereich des Bügelstützelementes (4) abdeckt.

2. Angelschnur-Führungsmechanismus in einer Drehrolle zum Angeln, mit:

einem Bügelbefestigungsarm (12), der an einem Rotor (11) vorgesehen ist und der eine Innenseite aufweist, die gegenüberliegend zu dem Außenumfang des Rotors (1) vorgesehen ist, und eine Außenseite aufweist;

einem Bügelstützelement (13), das schwenkbar mit einem Endbereich des Bügelbefestigungsarmes (12) so gekoppelt ist, das es von einer Position einer Angelschnur-Löseposition und einer Angelschnur-Aufwickelposition in die andere Position einer Angelschnur-Löseposition und einer Angelschnur-Aufwickelposition umgestellt wird; und

einem Verwickelschutzelement (18) das zwischen dem Bügelstützelement (13) und dem Bügelbefestigungsarm (12) vorgesehen ist,

wobei das Bügelstützelement (13) einen ersten Endbereich und einen zweiten Endbereich aufweist; wobei eine Seite des ersten Endbereiches einen Angelschnur-Führungsbereich aufweist, und wobei der zweite Endbereich schwenkbar mit der Innenseite des Endbereiches des Bügelbefestigungsarmes durch eine Befestigungswelle (14) gekoppelt ist,

dadurch gekennzeichnet, daß

ein Ende des Verwickelschutzelementes (18) mit dem ersten Endbereich des Bügelstützelementes (13) gekoppelt und/oder befestigt ist, und daß das andere Ende die Befestigungswelle (14) abdeckt oder integral damit ausgebildet ist.

Revendications

1. Un mécanisme de guidage pour un moulinet de pêche comprenant :

un bras de fixation de poignée (2) prévu sur un rotor (1) et ayant une partie intérieure placée à l'opposée de la périphérie extérieure du rotor (1) et

une partie extérieure;

un organe de support de poignée (4) couplé pivotant à une partie d'extrémité dudit bras de fixation de poignée (2), de manière à effectuer une inversion pour passer d'une position de libération de ligne de pêche à une position d'enroulement de ligne de pêche; et

un organe anti-enchevêtrement (6) prévu entre l'organe support de poignée (4) et ledit bras de fixation de poignée (2),

dans lequel ledit organe support de poignée (4) présente une première partie d'extrémité et une deuxième partie d'extrémité, la première partie d'extrémité ayant une partie de guidage de ligne de pêche, la deuxième partie d'extrémité étant couplée pivotante à l'extérieur d'une partie d'extrémité dudit bras de fixation de poignée (2), à l'aide d'une tige de fixation (5), caractérisé en ce qu'

une extrémité dudit organe anti-enchevêtrement (6) est fixée à une partie dudit bras de fixation de poignée (2) et la deuxième extrémité couvre au moins partiellement la deuxième partie d'extrémité de l'organe support de poignée (4).

2. Un mécanisme de guidage de ligne de pêche, dans guidage de ligne de pêche, sur un moulinet de pêche, comprenant :

un bras de fixation de poignée (12), prévu sur un rotor (11) et ayant une partie intérieure placée à l'opposée de la périphérie extérieure du rotor (1) et une partie extérieure;

un organe de support de poignée (13) couplé pivotant à une partie d'extrémité dudit bras de fixation de poignée (12), de manière à effectuer une inversion pour passer d'une première position de libération de ligne de pêche à une position d'enroulement de ligne de pêche à une deuxième position de libération de ligne de pêche et à une position d'enroulement ligne de pêche; et

un organe anti-enchevêtrement (18), prévu entre l'organe support de poignée (13) et ledit bras de fixation de poignée (12),

dans lequel ledit organe support de poignée (13) a une première partie d'extrémité et une deuxième partie d'extrémité, un côté de la première partie d'extrémité ayant une partie de guidage de ligne de pêche, la deuxième partie d'extrémité étant couplée pivotante à l'intérieur d'une partie d'extrémité dudit bras de fixation de poignée (12), à l'aide d'une tige de fixation (14), caractérisé en ce qu'

une extrémité dudit organe anti-enchevêtrement (18) et/ou fixée à la première partie d'extrémité dudit organe support de poignée (13) et l'autre extrémité couvre ladite tige de fixation (14) ou est réalisé d'un seul tenant avec elle.

FIG. 1

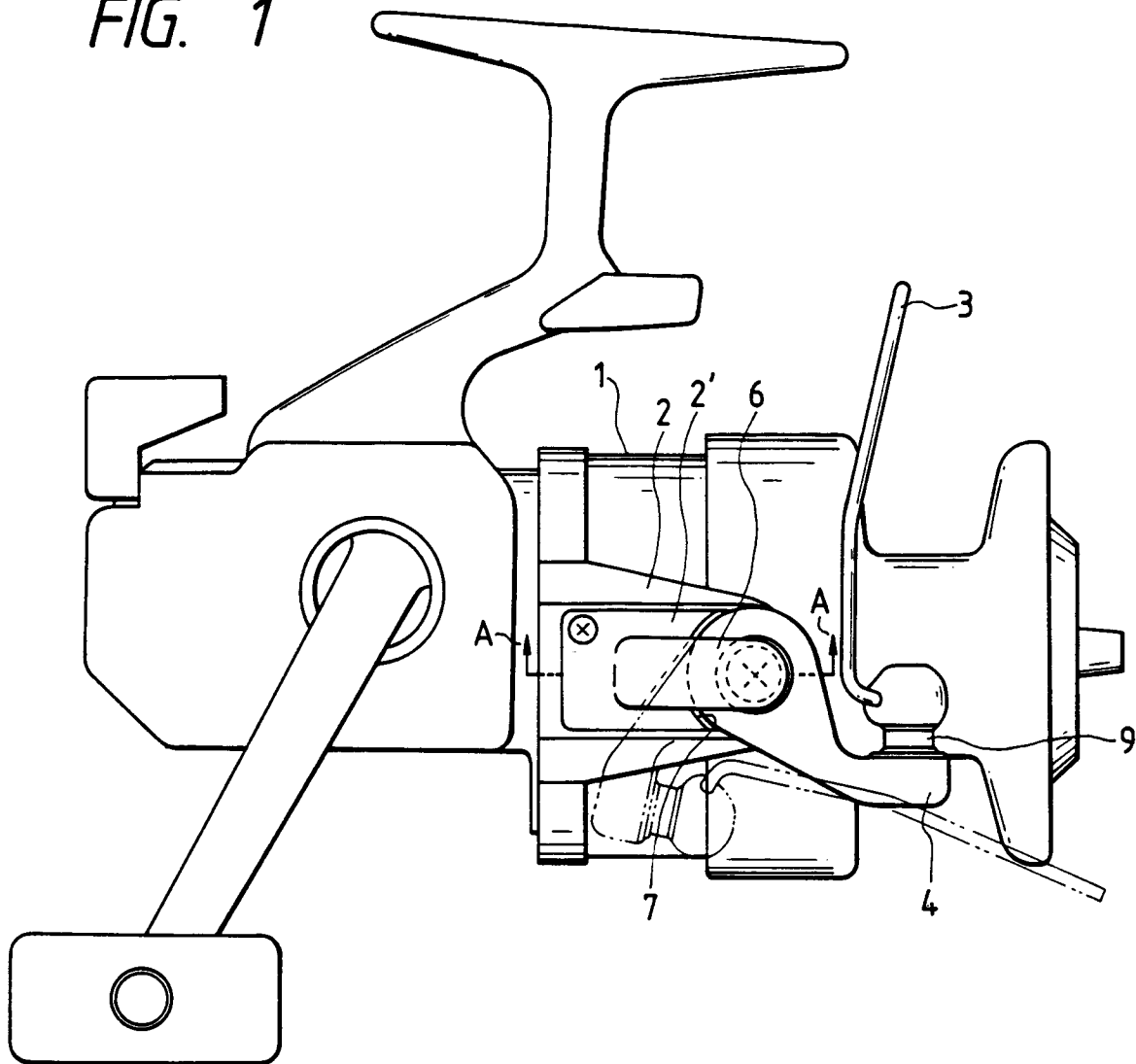


FIG. 2

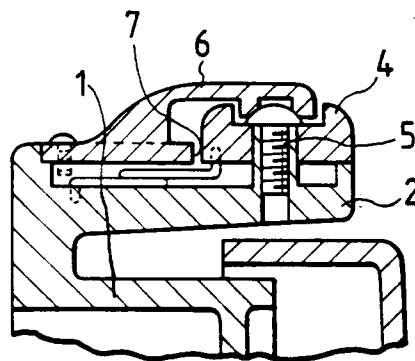


FIG. 3

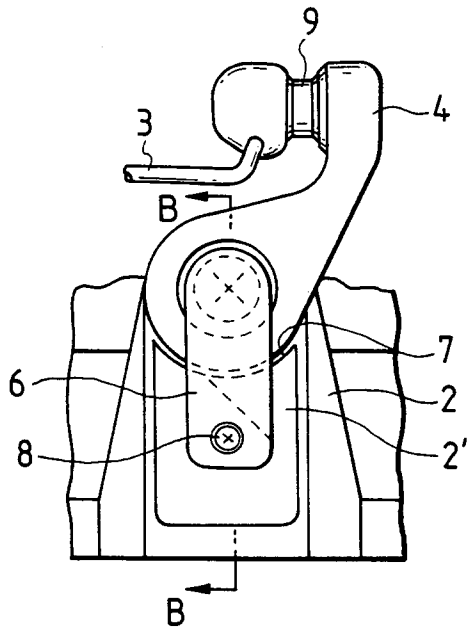


FIG. 4

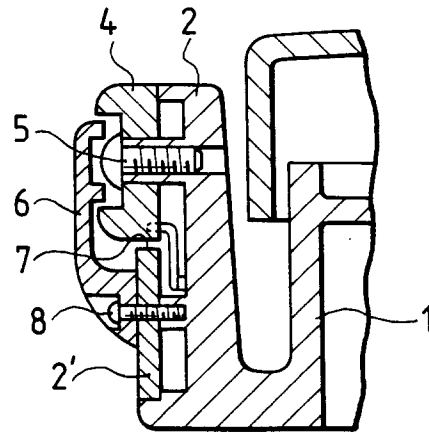


FIG. 5

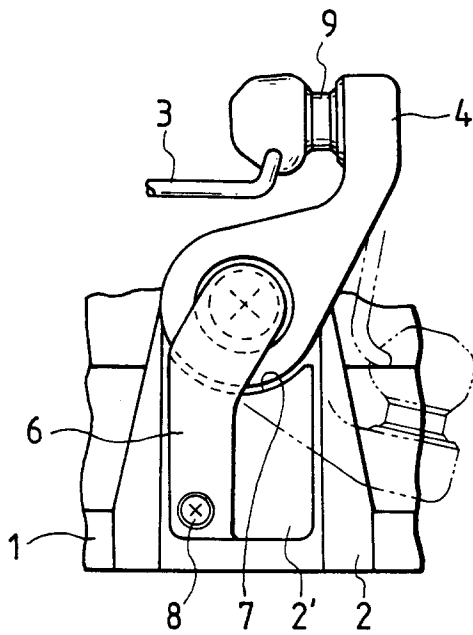


FIG. 6

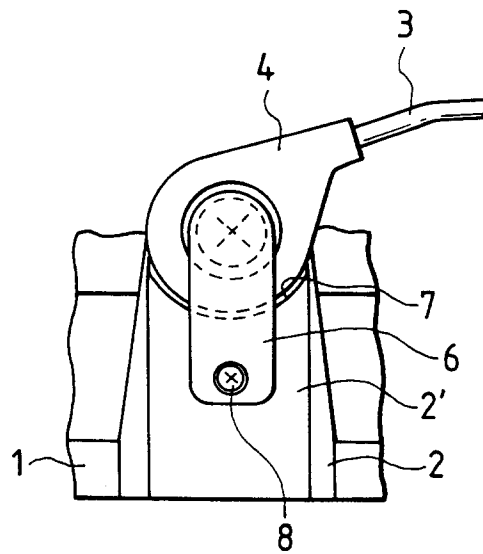


FIG. 7

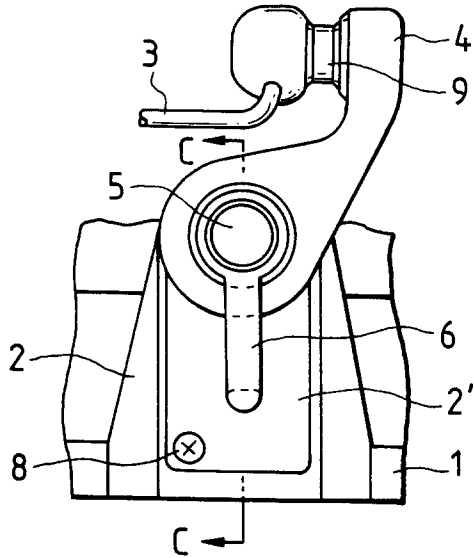


FIG. 8

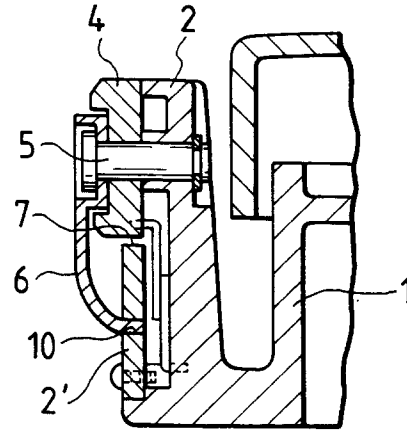


FIG. 9

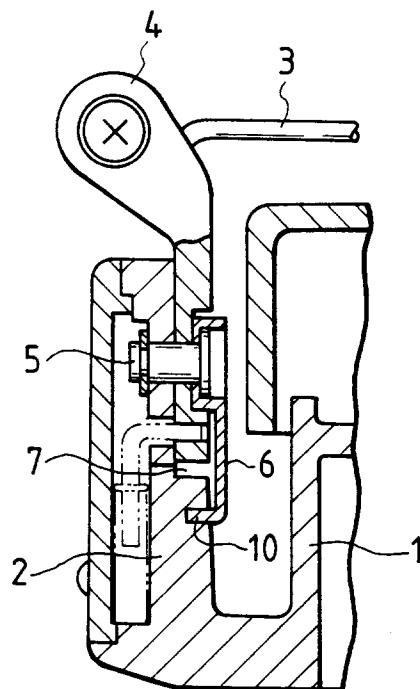


FIG. 10

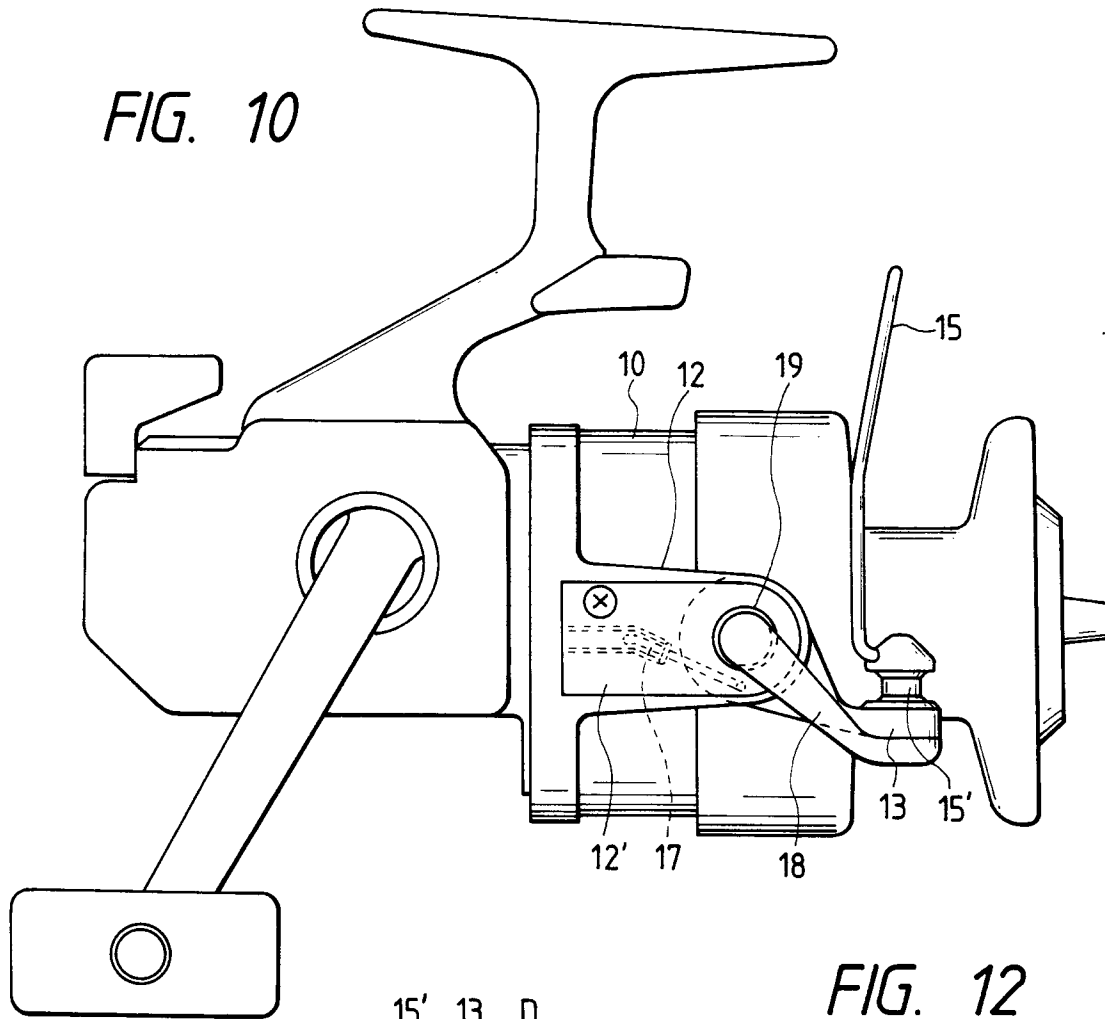


FIG. 11

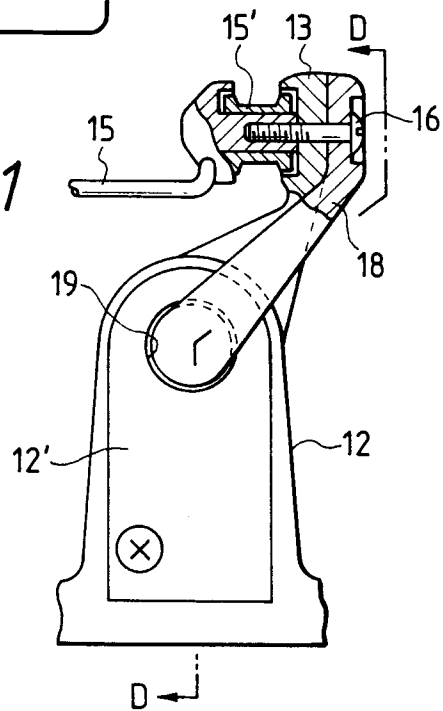


FIG. 12

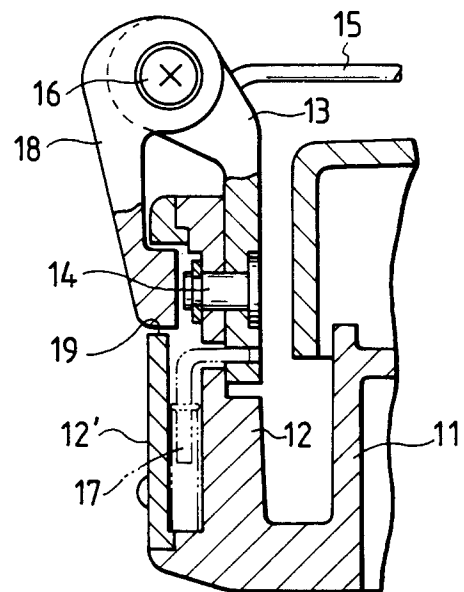


FIG. 13

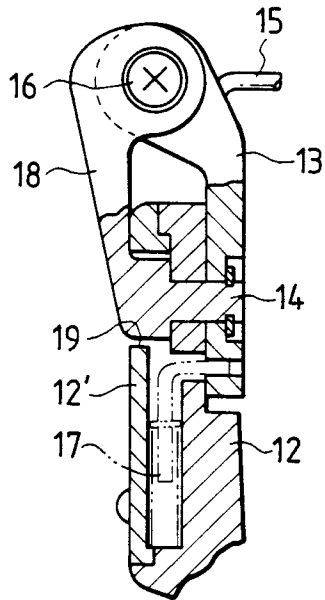


FIG. 14

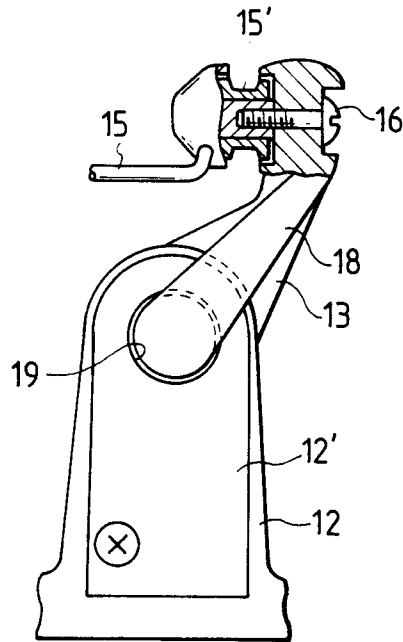


FIG. 15

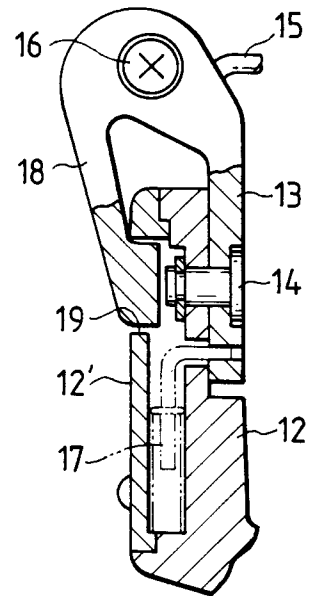


FIG. 16

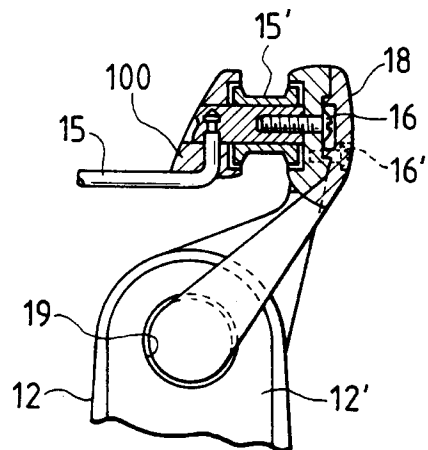


FIG. 17

